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EXAMINER	
HSIEH, SHIH WEN	
ART UNIT	**PAPER NUMBER**
2861	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,777	STEINFIELD ET AL.	
	Examiner	Art Unit	
	Shih-wen Hsieh	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19-27* is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10-25-03;4-18-05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 22 is objected to because of the following informalities:

"A method" is not narrative and is too broad, please elaborate to make it more specific.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-9 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasunari et al. (JP 2002-059559, from IDS).

In regard to:

Claim 1:

Yasunari et al. teach:

A fluid-ejection assembly comprising:

a first array of fluid-ejection mechanisms (21, figs. 1 and 5) to eject fluid onto media (34, fig. 1);

a first service station (25, figs. 1 and 5) to service the first array of fluid-ejection mechanisms;

a second array of fluid-ejection mechanisms (22, figs. 1 and 5) to eject fluid onto the media (34, fig. 1);

a second service station (26, figs. 1 and 5) to service the second array of fluid-ejection mechanisms;

a first drive mechanism (29) to move the first array of fluid-ejection mechanisms between a first position to eject fluid onto the media and a second position at the first service station while the second array of fluid-ejection mechanisms ejects fluid onto the media in place of the first array of fluid-ejection mechanisms, refer to [0048] to [0051]; also please refer to [0049], lines 5-6 for the independently and respectively driving of the arrays.

The device of Yasunari et al. DIFFERS from claim 1 in that it does not teach:

a second drive mechanism to move the second array of fluid-ejection mechanisms between a third position to eject fluid onto the media and a fourth position at the second service station while the first array of fluid-ejection mechanisms ejects fluid onto the media in place of the second array of fluid-ejection mechanisms.

To this end, two array holders (23 and 24, fig. 1) holding arrays (21 and 22) respectively. Each of the arrays engages with the sliding mechanism independently and respectively as [0049], lines 5-6 indicated. This feature equivalents to use two driving mechanisms as proposed by the instant application. However, the end results are the same, i.e., as fig. 5(a) and 5(b) of Yasunari et al.'s invention indicated. Two driving mechanisms as proposed by the instant application, each drives its own array to a servicing station while remains stationary during printing is a well known feature in the ink jet printer art, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235 (CCPA 1942).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Yasunari et al. to use two sliding mechanisms (29, corresponding to the drive mechanisms in the instant application) as propose by the instant application, each drives its own array instead of individually engaging with the single sliding mechanism (29) as taught by Yasunari et al., since such replacement will perform the same result as those invented by Yasunari et al. in their figs. 5(a) and 5(b).

Claim 2:

Yasunari et al. further teach:

wherein each of the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms remains stationary while ejecting fluid onto the media, such that the media moves past one of the first and the second arrays of fluid-ejection mechanisms, refer to fig. 5. In fig. 5, indicating arrays 21 or 22 remains stationary, while media 34 moves from "J" onto the belt (35) and exits from "K".

Claim 3:

Yasunari et al. further teach:

a belt (35, figs. 1 and 5) on which the media (34) is moved past one of the first and the second arrays (21 or 22) of fluid-ejection mechanisms.

Claim 4:

Yasunari et al. further teach:

wherein while the first array of fluid-ejection mechanisms is to be serviced at the first service station in the second position, the second array of fluid-ejection mechanisms is to eject fluid onto the media in the third position, refer to fig. 5(a) and 5(b) for servicing arrays respectively.

Claim 5:

Yasunari et al. further teach:

wherein while the second array of fluid-ejection mechanisms is to be serviced at the second service in the fourth position, the first array of fluid-ejection mechanisms is to eject fluid onto the media in the first position, refer to fig. 5(a).

Claim 6:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each comprises an array of inkjet print heads for ejecting ink onto the media, refer to fig. 2 for ink jet head.

Claim 7:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each eject different spot color inks, refer to [0049] and [0050].

Claim 8:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each eject differently colored inks in accordance with a color model, refer to [0049] and [0050].

Claim 9:

Yasunari et al. further teach:

wherein the color model is a cyan-magenta-yellow-black (CMYK) color model, refer to fig. 5(c) and fig. 7.

Claim 15:

A fluid-ejection device comprising:

a belt on which media is moved;

a first array of fluid-ejection mechanisms movable by a first drive mechanism

between a first position at which the first array ejects fluid onto the media while remaining stationary, and a second position at which the first array is serviced at a first service station; and

a second array of fluid-ejection mechanisms movable by a second drive mechanism between a third position at which the second array ejects fluid onto the media while remaining stationary, and a fourth position at which the second array is serviced at a second service station,

wherein the first array ejects fluid onto the media while the second array is being serviced, and the second array ejects fluid onto the media while the first array is being serviced.

Rejection:

This claim is a combination of claims 1 and 2, and is rejected on the basis as set forth for claims 1 and 2 discussed above.

Claim 16:

The device of claim 15, further comprising the first drive mechanism and the second drive mechanism.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above.

Claim 17:

Yasunari et al. further teach:

the first service station and the second service station (25 and 25, figs. 1 and 5).

Claim 18:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each comprises an array of inkjet print heads for ejecting ink onto the media, refer to fig. 2 for ink jet heads.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasunari et al.

In regard to:

Claim 10:

A fluid-ejection assembly comprising:

a first array of fluid-ejection mechanisms to eject fluid onto media;

a first service station to service the first array of fluid-ejection mechanisms;

a first drive mechanism to move the first array of fluid-ejection mechanisms between a first position to eject fluid onto the media and a second position at the first service station; and

means for ejecting fluid onto the media while the first array of fluid-ejection

mechanisms is at the first service station in the second position for servicing.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above. In this claim, "means for ejecting fluid onto the media while the first array of fluid-ejection mechanisms is at the first service station in the second position for servicing" is the second array of fluid-ejection mechanisms. Since there is no "second drive mechanism" being recited in this claim, therefore, Yasunari et al.'s invention read on this claim and is a 102 (b) rejection.

Claim 11:

Yasunari et al. further teach:

wherein the means comprises a second array of fluid-ejection mechanisms, and a second drive mechanism for the second array of fluid-ejection mechanisms, refer to the discussion to claim 10 above and also refer to [0049], lines 5-6.

Claim 12:

Yasunari et al. further teach:

wherein the means further comprises a second service station (25 or 26, figs. 1 and5) for the second array of fluid-ejection mechanisms.

Claim 13:

Yasunari et al. further teach:

a belt (35, figs. 1 and 5) on which media is moved, such that the first array of fluid-ejection mechanisms remains stationary over the belt while ejecting fluid onto the media, also please refer to discussion to claim 2 above.

Claim 14:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms comprises an array of inkjet print heads for ejecting ink onto the media, refer to fig. 2 for ink jet head.

Allowable Subject Matter

6. Claims 19-27 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

In regard to:

Claims 19-21:

The primary reason for the allowance of claims 19-21 is the inclusion of the limitation of second means for ejecting fluid onto the media as the media is moved while the first means is being serviced so that **fluid ejection continues onto the media without stopping movement of the media**. It is this limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Claims 22-27:

The primary reason for the allowance of claims 22-27 is the inclusion of the method step of stopping ejection of fluid by the first array of fluid-ejection mechanisms

and ejecting fluid onto the media by the second array of fluid-ejection mechanisms from the third position **such that fluid ejection onto the media continues uninterrupted**. It is this step found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Notes:

Yasunari et al. teach in their figs 5 and 10 two printing mode: monochrome and color. These two modes are independent with each other based on the description in Yasunari et al.'s invention. Or, in another words, in color printer (using first means as recited in claim 19) as shown in fig. 5(a) for instance, black head (second means) is capped. At the end of this operation, a color image is produced. So, in the process of fig. 5(a), the second means (black array, 21) was never used to continue the print so as to allow the first means to be capped. The other mode is as shown in fig. 5(b). Therefore, the feature of interchangeably printing by either of the two means to keep the printing continuously without interrupting while the other means kept in a capping situation was not taught by Yasunari et al. This **uninterrupted feature** is indicated in step 412 of fig. 4 of the instant application.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-283-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-WEN HSIEH
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SWH
July 26, 2005